ANALYTICAL EQUIPMENT

LUMEX

DETERMINATION OF **ACETIC ACID** (**ACETATE ANIONS**) IN NATURAL WATER AND WASTEWATER

LUMEX Method M 01-49 (2011)

INTRODUCTION

The method is used for the determination of acetic acid (as acetate ions) in the samples of natural, drinking, and waste water by capillary electrophoresis.

MEASUREMENT METHOD

The method is based on the sample filtration and dilution and its subsequent analysis by capillary electrophoresis with indirect anion detection at 254 nm for CAPEL®-103PT/104T and at 266 nm for CAPEL®-105/105M.

MEASUREMENT RANGE

Measurement ranges, mg/L	CAPEL® System
0.1–10000	103PT/104T/105
0.01–10000	105M

The upper bound of the measurement range is indicated allowing for the dilution.
Carbonates and other inorganic anions at concentrations characteristic of these sample types do not interfere with determination of the acetic acid within the 0.1–10000 mg/l range. For analyses of samples with a low acetic acid content (lower than 0.1 mg/l) the total content of basic inorganic anions (chlorides, sulfates, and carbonates) in the sample should not be higher than 300 mg/l.

EQUIPMENT AND REAGENTS

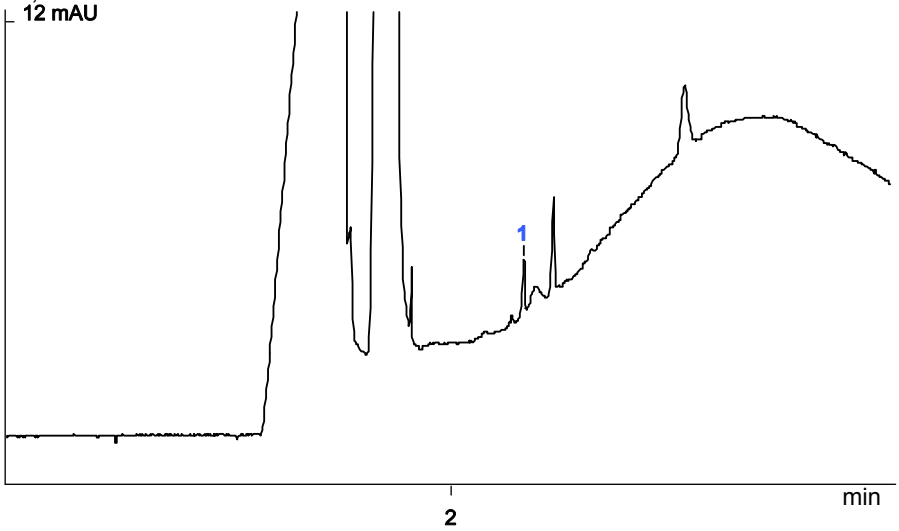
The CAPEL® capillary electrophoresis system with the high-voltage negative polarity is used in measurements.
Data acquisition, collection, processing and output are performed using a personal computer running under WINDOWS® 2000/XP operating system with installed dedicated software package for acquisition and processing of chromatography data.
All reagents must be of analytical grade or better.

EXAMPLES OF REAL ANALYSES

Buffer: PABA, with DEA and CTA-OH
Capillary: L_{eff}/ L_{tot} 50/60 cm, ID 75 µm
Injection: 300 mbar x sec
Voltage: – 25 kV
Detection: 266 nm, indirect

Sample: wastewater (dilution 1:1)

Measurement results:
1 – acetate (0.4 mg/L)



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